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Original

A CONTRIBUTION TO THE TREATMENT OF ASPHYXIA NEONATORUM.

BY RICH. HOGNER, M. D.,
Boston, Mass.

Ever since Cazeaux declared so emphatically, in 1850, that asphyxia neonatorum is caused by an obstruction to, or cessation of, placental respiration, many attempts have been made, the "causa morbi" being kept clearly in mind, to secure a return of respiration by one means or another to the apparently lifeless child. No doubt attempts to revive the child were instinctively made in the distant past whenever and wherever a little human life was esteemed precious, but Cazeaux was the first to employ a scientific method. All such attempts (and the modifications are well-nigh innumerable) can be comprised in two classes—external irritation and artificial respiration. The first class being employed to secure, by reflex action, the act of respiration through the centripetal nerves. The latter class is employed with a view to securing the oxydation of the blood.

B. S. Schultze, of Jena, Germany, the indefatigable and eminently successful explorer of this subject, says in his article entitled, "Uber die beim Scheintod Neugeborener Vorliegenden Indikationen" (Centralblatt fur Gynakologie, No. 37 P. 2),

that the indications for the pale, relaxed condition of asphyxia are restoration of the extinguished reflex action of the medulla; also, he says, "We can accomplish this only by furnishing it with oxydated blood," and "this is only possible through artificial respiration, and, if possible, a simultaneous promotion of circulation of the blood."

It may justly be questioned whether Schultze's expression is wisely chosen, whether reflex action can be recalled after it is once "extinguished;" for, where death has actually taken possession life can claim nothing more; however, his meaning is correct—namely, that when the reflex action of the respiratory centre has sunk to a minimum it is only by means of oxydation of the blood and promotion of circulation through artificial respiration that life can be saved.

It is a fact that the best means of reviving a person asphyxiated by drowning, by illuminating gas, by chloroform, or by poisoning with ether is artificial respiration. But just as one cannot delay its use till the last minute, so in the case of the asphyxiated new-born, one must not postpone too long the employment of this remedy. Many doctors do postpone the use of artificial respiration for the "neonati," because the method, especially that of Schultze, seems so "heroic" and violent; whereas, if there was a more comfortable, less agitating method, the case would be quite different.

Such a method I have developed and used for a year, and now take the liberty of presenting it to you.

HOGNER'S POSITION AT THE TREATMENT OF ASPHYXIA NEONATORUM.

The operator seats himself on a high chair; has a bath tub of lukewarm water placed on the floor at his right hand, with vessels of both hot and cold water within easy reaching distance. He holds his legs together—somewhat bent at the knees—and in an inclined plane. He lays his left arm (if he be right-handed) with the "palma manus" turned upwards upon the "femores," so that the wrist of the hand rests between his knees, and the open hand, with the fingers spread, is free in the air. The child is laid head downward on its back along the operator's left arm, so that the head and shoulders can be supported by the fingers and the infant securely held. The child's body must be sufficiently inclined downward so that the phlegm, oedema, etc., can easily run out through the nostrils, and its little arms must be outstretched and hanging backward and downward sufficiently to hold the pectoral muscles in the greatest tension, bringing the chest into the maximal position of inspiration. The operator now lays his right hand, with fingers distended, down over the child's breast and abdomen, so the tip of the middle finger rests on the throat, the index finger and the ring finger on the subclavicular regions, and the thumb and little finger in the armpits. By pressing with the fingers of the right hand on the chest and with the palm on the abdomen, artificial expiration is induced, followed, as soon as the pressure is removed, by an automatic inspiratory movement, which is caused solely by the above-described wide-open, overhanging position. If the operator now continues in right tempo (preferably too slowly than too rapidly) to alternate with the pressure and the non-pressure of the hand, he can induce artificial respiration of whatever rapidity or depth as required.

The frothy substance, often bloody phlegm, etc., which will escape from the child's nose, can be removed by the operator or an assistant, as it appears, or one can leave it to itself, because the position the child occupies, with head downward, prevents these secretions from being drawn into the windpipe.

Between the breathing movements I am accustomed to try to stimulate the tone of the heart by means of delicate percussions on the praecordial region in rhythm with the heart beats, which are most easily made by means of the middle and ring fingers without otherwise changing the position of the right hand. It is well known that there is a similiar movement employed in Swedish medical gymnastics to great advantage in cases of heart failure, a movement which has proven its mechanically reflective influence on the action of the heart, which becomes stronger, also slower, or more rapid, according to the tempo of the movement.

The position of the child is now and then changed to an upright one, partly to empty the bronchi, which has not become drained by the child's downward position, and partly to relieve the auriculi of the heart, at which time, if it seems advisable, the operator dips the child into the bathtub beside him, into the hot water, and then cold water is sprinkled on its breast, etc.

In employing this method the position of the physician is so comfortable that he can continue the operation uninterruptedly even for more than two hours, which should be, according to authorities, the shortest length of time generally to devote in efforts for resuscitation of the infant before hope is abandoned. During the process the child undergoes a drainage of most of the respiratory tubes. All necessary manipulations can easily be made, and at the same time the anxious parents or friends are not distressed by methods that seem cruel to the uninitiated, such as are the swinging of the child in the air, the holding of it by the feet head downward, etc.

As for subcutaneous injections as stimulants to the heart action of the new-born child, alcohol, ether and oil of camphor have been recommended. For my own practice I prefer the physiologic (or even stronger, 0. 6 to 2 per cent.) salt solution, from a few drops to one-half c. cm. at a time. Equally good with this is perhaps an injection of nitroglycerine, recommended by Dr. J. R. Scott, of Clay Center, Kansas, in

the Western Medical Journal for March, 1897. The Doctor has written me a letter about the subject, which I take liberty to quote:

"I will say that injecting nitro-glycerine is original with me. Others may have used it, but I have never seen its use advocated by any one. My theory when confronted with a case was for a powerful, rapid stimulant that would act through the nervous system. The case was urgent, and nice calculations were not to be thought of, so I took a tablet of 1-100, put it in my syringe, which holds 60 m., expelled one-half of the solution and filled the syringe again with water. Of this solution I used 5 m., which equaled 1-2400 of the drug. This is about the rule I follow. It is a good thing."

As to nitro-glycerine injections, I have never made use of them, either on adults or on children. On the other hand, I have often used injections of salt solutions and always with, at least, instantaneous effect.

In illustration of my method numerous cases could be cited, from the simplest to the most severe, but as they are like other cases of asphyxia neonatorum, and as the treatment was the above-described, artificial respiration, heart percussion and use of water of different temperature, it is only necessary to add that every time this method has been employed the result was a happy one, with a single exception, where even Schultze's swinging was added, and where the treatment failed.

In treating asphyxia neonatorum many physicians make themselves very uncomfortable and waste much strength by taking a variety of positions and hurryings from one method to the other. The method here described has been of great service and comfort to its author. May it prove of advantage to any who may honor it with a trial!

PHARMACOLOGY AND THERAPEUTIC INDICATIONS OF TRIONAL.

(BY DR. M. FONTENOY.)
Presse Medicale, Paris, France.

Trional was discovered in 1890, by Baumann and Kast. After experiments upon animals and healthy persons it was administered to the sick, and soon became recognized as a nerve sedative and was awarded a place in the therapeutics of nervous affections. Nevertheless, the rationale of its action, and hence its indications, is yet so little known that it will be useful to present a collective study.

After their discovery Baumann and Kast experimented with trional upon animals, their experiments being repeated by Horvath, Raimondi and Mariottini in 1892. Barth and Rumpel were the first to employ it clinically in the General Hospital of Hamburg, and were followed by Schultze, of Bonn; Horvath, of Buda-Pesth; Schafer, of Vienna, and others. Bellamy studied its effects in delirum tremens, and Claus its administration in children. In France, the observations of Perier, Duguet, Hirtz, Gaillard and the very interesting thesis of Boudeau have contributed to the knowledge of its effects.

From a chemical point of view trional is a disulfone related to sulfonal. It occurs in the form of small, brilliant crystals readily reduced to a powder by the pressure of the finger, and melting at a temperature of 76 degrees C. It is soluble in 320 parts of cold water and in 33 grammes of alcohol at 95 degrees. Its solubility is increased in hot water,

hot milk, ether and benzine. It is odorless, and the solution has a slight bitter taste.

In its physiological action trional presents some points of great interest: 1. Absorption is very rapid; so prompt indeed in certain cases that the effect is developed only ten minutes after its ingestion. 2. It is totally destroyed in the organism, and cannot be detected in the urine, either pure, that is to say in the form of crystals, or in combination. It behaves, on the whole, like sulfonal, with the difference that it is destroyed more rapidly and completely.

Baumann and Kast have shown that this product owes its hypnotic property to the ethyl group, which also is present in sulfonal and tetronal. These authors administered it in a dose of 3 grammes in warm milk to a dog weighing 9 1-2 kilos, at seven o'clock in the morning. At the end of twenty minutes the animal appeared fatigued and sleepy. After three hours it was in deep sleep and did not respond to the loudest calls. It remained thus for four hours and then gradually revived. At 4 o'clock in the afternoon it stood up, and at 9 in the evening all symptoms had vanished.

Raimondi and Mariottini experimented upon frogs, rabbits and then upon dogs, and obtained the same results. They observed that its effect was exerted upon the brain, for the rabbits after receiving 0.3 to 0.5 grammes, presented a paralytic state with retarded heart action, and were then attacked by convulsions, like those after injections of strychnine.

Bäkofen showed that the action of trional was much more rapid than that of sulfonal. In rabbits, sleep occurred twenty-five minutes after the administration of trional, while it was not developed until the end of two and one-half hours with sulfonal.

In the course of their experiments, Horvath and Stieglitz investigated the effects of trional upon themselves. Horvath experienced at the end of ten minutes a marked tendency to sleep, and especially a feeling of falling. Stieglitz took 2 gm. three hours after a meal, and at the end of about an hour was plunged into a deep sleep.

When administered to a patient, trional exhibits above all, the character of a sedative hypnotic, without any analgesic action. Sleep occurs in one-half to one hour after its ingestion, sometimes in less than that time, so that Von Swetlin, of Vienna, recommends that it be not given to patients until they are in bed. The sedative effect is generally very prompt. Sometimes, however, sleep is preceded by feelings of lassitude and vertigo. Whatever be its mode of development the sleep resembles physiological sleep, with normal respiration (Boudeau). Awakening is also natural, and but rarely disturbed by slight malaise, with headache or vertigo, phenomena, which are only transient.

Its action upon the different organs is practically speaking nihil. It acts neither upon the heart nor circulation. The blood corpuscles are not altered; spectroscopic analysis of the blood does not give any result. Horvath, it is true, observed in animals, an accelleration of the pulse, followed by a retardation attended with a chill, but without the least injurious effect. It has practically no action upon the digestive tract. Thus, Pelanda and Cainer cite the case of a patient suffering from alcoholic gastritis with frequent vomiting, in which trional was given without any accident, but acted beneficially on the contrary. In a case of morphinomania of Mattison, however, it provoked vomiting, but here in a dose of 2.50 grm. Claus thinks that trional has a favorable action upon the digestive organs, and Springer that it stimulates the appetite. A cancerous patient cited by Boudeau, in his thesis, had observed that his appetite was restored. What conclusion can be drawn from these contradictory statements except that trional has not any well marked effect upon the digestive tract?

In cases where abnormal effects have been noted it would seem that the drug has been employed in very large doses, or for a prolonged period. It is with trional as with the greater number of medicaments.

The manner in which it is tolerated depends upon the different factors—the age, constitution and nutrition, the general condition and sex of the patient. As soon as the least sign of intolerance manifests itself the administration of the drug should be at once suspended.

Trional, like sulfonal, does not influence the metabolism even when given in comparatively large doses. The variations that have been noted take place within normal limits, and the absence of any action of trional, as well as sulfonal, upon the metabolism of albumin within the organism, constitutes a great advantage over chloral hydrate without taking into account the deleterious effect of the latter upon the heart and vessels (Schaumann).

Habituation to trional does not exist, contrary to what is true of sulfonal and tetronal. All authors are in accord on this point. On the other hand, its cumulative action is marked; as was shown by a very interesting observation of M. Duguet in the case of a tuberculous patient in his service, who, after taking one gramme of trional daily for three days, slept the first night four hours, the second six hours and the third ten hours. This explains, perhaps, why other hypnotics are more active when administered on the nights following the suspension of trional.

Trional does not seem to possess any marked degree of toxicity. According to Raimondi it would seem to be more toxic than sulfonal, but Collatz cites a case of attempted poisoning, without success, from ingestion of 8 grammes, and Kramer reports the case of a pharamaceutical student, a morphine habitue, who took 16 grammes and recovered within a few days. All these were instances of acute poisoning. There is, however, a chronic and perhaps more serious intoxication—a condition which is always favored by certain factors, such as the long duration of the treatment without interruptions, constipation which predisposes to accumulation, sex (females seem to be more sensitive to the hypnotic action) and finally the dosage.

In what class of cases should trional be employed? There are a number.

As in a general rule, it may be employed in all forms of insomnia, particularly nervous insomnia with excitement (Bordeau). But its action is much less effective in insomnia due to violent cough (Gilliard). It is more suitable for those who sleep with difficulty than for those who fall asleep readily but awake as easily (Vogt).

The literature upon the therapeutics of the drug is abundant. Schultze experimented upon 76 insane persons. In all who did not manifest violent excitement it produced good sleep in doses of one to four grammes.

Schaefer, with doses of 0.5 to 4.0 grammes, produced a sleep varying from six to ten hours, in the course of 15 to 20 minutes. It proved inefficient only 14 times in one hundred administrations.

Raimondi obtained uniformly good results in 51 cases at the insane asylum of Rome.

Raimondi and Mariottini, who administered it in doses of one to three grammes to 19 patients suffering from insomnia due to various causes, obtained from administrations of one to 1.50 grammes in ten cases a sleep of six to eight hours, and from two to 2.50 grammes in nine other cases a sleep lasting for nine hours.

Hammerschlag observed successful results 83 times in a hundred in general paralysis, and in cocaine-morphinomania 88 times in 100. The dose varied from one to three grammes.

Pelanda and Cainer have employed the drug with success in cases of alcoholic pseudo-paralysis, where chloral had proved ineffective. The duration of sleep was six hours. The same authors obtained a sleep of eight hours from three grammes in cases of alcoholic dementia.

Bellamy has extolled its use in delirum tremens; Garnier, Pelanda, Beyer in maniacal excitement; Pelanda, Cainer, Beyer, Grunfeld in melancholia with depression.

Finally, in children, it has proved very serviceable, and Claus, Arth, Hennig, of Konigsberg, and Boudeau have observed excellent results in

chorea, epilepsy, infectious diseases, and, above all, in pavor nocturnus. On the other hand, the results derived by Pelanda and Cainer in hysterical dementia were not good.

Boettiger lays stress upon the point that trional, while efficient in the cases of insomnia which we mentioned, has but a very slight effect in insomnia due to pains. Hence, it is indicated, from a surgical standpoint, in cases of post-operative insomnia without severe pain (Van Schaick); although Boudeau remarks that pain is no positive contraindication to its use, because it acts not against this factor, but against the excessive excitement of the nervous system which results from it. The only real contraindication seems to be cardiac lesions which are not well compensated.

The dosage of trional is simple; it can be administered in massive or fractional doses. In quantities under one gramme it does not give appreciable results; hence, if it is desirable to employ single doses, from 1.50 to two grammes should be given, and reduced to one gramme during the following days to avoid accumulation. This method is advised by Pelanda and Cainer.

Claus, who has made a thorough study of the effects of the drug in children, concludes that it should be administered as follows:

From one month to one year, 0.2 to 0.4 gm. trional.

From one to two years, 0.4 to 0.8 gm. trional.

From two to six years, 0.8 to 1.2 gm. trional.

From six to ten years, 1.2 to 1.5 gm. trional.

Finally, in certain cases it will be found advisable to associate trional with other hypnotics, in particular its administration (one to 1.50 gm.) in connection with morphine, 0.01 grammes, or codeine 0.02 to 0.03 gives excellent results. This also applies to its association with phenacetine or acetanilide.

The mode of administration is variable. It can be taken dry in wafers or in hashed meat. It can also be exhibited in suspension in cold milk, tea, mucilage of acacia, or better still in warm fluids, in which it is neither dissolved nor suspended, such as milk, wine, punch, etc. The best way seems to enclose it in unleavened bread, and follow its ingestion by a drink of 200 c. cm. of some warm fluid. Trional should generally be taken at least one-quarter of an hour before retiring.

Editorial

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AN OBSTINATE CASE OF ADYNAMIC ILEUS—DEATH.

The patient was a married woman 33 years of age, who, having had repeated attacks of pelvic pain, came under my observation a little over a year ago. She had never had any children, and at the time of first examination was suffering with a mild inflammatory affection accompanied with vomiting and pain over the right hypogastric region intensified by deep pressure. A diagnosis was made of appendicitis, but the symptoms not being severe, operation was postponed. She recovered in a short time and returned to her distant home. Recently she removed to Boston and again came under my observation for what was now diagnosed as a large pus tube dipping down into Douglas pouch. An operation for its removal was assented to and a double ovariotomy performed by Dr. A. H. Tuttle, of Cambridge. This necessity was obvious, because not only was a large abscess found existing in the right tube and ovary, but also the left was much inflammed. The periuterine adhesions were thick and firm. In the usual manner the patient was kept quiet for the first three days without diet. She reacted well; the temperature at no time rising over 100 degrees F. On the third day, complaining much of gas distention, an enema of asafetida was given, but with no appreciable effects. An enema of turpentine, in an emulsion, was then given through a No. 12 catheter as high up as possible, but with like failure to bring away gas. Two grains of calomel, followed by

a second dose in six hours, were then given, which remained for four hours on the stomach, that up to this time, since the day following the operation, had been rejecting everything, even water. She was therefore kept under the effects of morphine a day longer, awaiting the action of the calomel. No action of the bowels having been obtained, on the morning of the sixth day a solution containing a tablespoonful of salt was given in small repeated doses. This was apparently all regurgitated. Two drops of croton oil was then tried, followed in three hours, as no action had taken place, by a second two-drop dose. Vomiting was now quite constant, but controlled more or less by morphine and atropine. On the seventh day ten grains of calomel, repeated every two hours until forty grains had been taken, were given, followed by faradic electricity, and from which a fairly good movement was apparently obtained. Enemata were kept up during this time of milk, eggs and whisky. Stimulants hypodermatically were given at intervals. Patient seemed comfortable after movement, but weak; had not slept since the third day after operation. Much emaciated, but complained of hunger. No abnormal temperature since the third day. Pulse remained high, ranging between 120 and 140 most of the time. No symptoms of mercurialization. Vomiting now was quite infrequent, but much regurgitation took place of a dark green, bilious-looking liquid. Various anti-acids were tried without much effect. On the seventh day she took over a pint of milk and lime-water at intervals. On the eighth day, with the assistance of ten grains of chloral by enema, the patient slept fairly well. No further movement of bowels. Patient seemed better; still much regurgitation and some vomiting. Did not seem to retain long anything on stomach. On ninth day patient seemed improved in countenance, but complained of weakness. Whisky was therefore pushed and an egg and milk enema given with a little chloral once. Pulse 100. Temperature normal. An asafetida enema brought away some gas. Patient complained of a distress in her back, near shoulder blades, and vomited a small clot of blood. No hametemesis. She soon fell asleep from the effects of the chloral and slept four hours. On waking patient seemed collapsed, yet could move herself about the bed. An hour later no wrist pulse was discernible, nor any respond of the heart to stimuli. She steadily sank and died eight hours afterwards. Death was by apnoea.

AUTOPSY.

Abdomen only opened, eight hours after death. Much post-mortem decomposition was apparent throughout abdominal cavity. Peritoneal cavity was shut off nicely from wounds of operation, and no pus in abdomen. Above the abdominal opening, especially about the lower border of stomach and including the jejunum bands of old peritonial adhesions were found, showing that some years previous there must have been an active general peritonitis. The appendix was bound down firmly and contained a concretion with pus. Intestines contained a blackish, green fluid, similar to what had been vomited. Stomach not opened. No signs of hemorrhage.

Autopsy diagnosis as to cause of death; adynamic ileus complicated by bands of peritoneal adhesion across the intestines, causing fatal obstruction.

The question naturally arises: Could not these adhesions have been broken up by a second operation? Literature on the subject suggests that such operations are inevitably fatal where bands of obstructive adhesions exist. In this case the adhesions were so numerous that the probabilities are the case would have been fatal even had they been broken up at the first operation.

F. S. P.

BABY CULTURE IN NEW YORK.

According to the ancients all virtues in human natures are embodied in a new-born babe, whose innocence and helpless dependence invariably commended sacred care, as exemplified in the divine exhortation, "Suffer ye little children to come unto me." The dwellings of the Patriarchs were deemed sanctified, when adorned by a child, but when a baby came, either too soon, or not at all, there was a rift in the family circle, which clouded domestic happiness.

It is not very many years ago when the babe that came too soon was regarded as doomed, and at that period the mortality statistics of the large centres of population revealed death rates averaging 80 per cent. from this cause.

In view of these alarming facts, brains, aided by science, has sought to master this source of fatalities, and prior to the end of the '50 decade of this century, fruitless attempts were made to rear "prematures" by swaddling their tiny forms in flannels, and then surrounding them with bottles filled with hot water, but they did not survive this treatment, and the problem of baby culture remained unsolved.

The first eminent scientist to attempt to mitigate the mortality among the then increasing number of "prematures" was Prof. De Nuce, of Bordeaux. He constructed a bathtub with double walls, the interstices of which were filled with hot water, for in such cases regular heat and a pure atmosphere is life. The infants were placed in the tub, but ultimately succumbed to the variable temperature and impure air.

Prof. Crede, of Leipsic, then followed with experiments on the line of his predecessor with slight improvement, but with no better success in saving baby lives.

Later on, Prof. Winkel, of Munich, arranged a hot bath in which the babies were laid with their heads clear off the water, but the results were fatal, because the inequalities of temperature were not overcome.

Winkel's successor in this field was Prof. Tarnier, of Paris, who built a box of heated bricks to produce a given temperature of hot air, but this, like the rest, proved to be a failure.

Prof. Auvard, of Paris, followed in a series of experiments with the Tarnier apparatus, to which he added a number of small bottles containing hot water; these necessitated frequent changes as the water cooled, and the variations of temperature were fatal to the infants.

After a study of the various processes of those who had preceded him, and the results achieved, Prof. Lion entered the list of infantile life savers, and assumed the task of providing a structure which should afford a permanent equable temperature, and a continuously pure atmoswhere.

His initial attempt to accomplish this was a wooden box contrivance, in which heat was generated by gas at the sides of the subject treated. Ventilation was obtained through circular apertures in the upper and lower portions of his structure. Although the results were very gratifying in the nurture of the babies, he discovered that the wood employed was a refuge for bacilli and microbes.

This caused him to utilize metal in lieu of wood to obviate any possibility of failure from a hygienic point of view. Together with this improvement he invented a thermostadt, in which mercury was the motive ingredient, and by which he secured a permanently even temperature. The gas in the original incubator was abandoned on account of its debilitating odor, and finally he created an automatic regulator, which permitted the utilization of any type of heat, and while reducing the size of his incubator, he has also simplified its mechanism, and it is now recognized by the medical faculty of Europe as the acme of perfect baby culture. It is impervious to bacilli, it furnishes a steady warmth of requisite temperature, and pure air is incessantly supplied by his own regulating process.

The first successful public demonstration of the value of Prof. Lion's achievement was made at Marseilles,

nearly seven years ago, where he remained for a year, and rescued several hundred infant "prematures." He left Marseilles at the invitation of the Professors of Obstetrics at Nice, and here his treatment proved to be so effective that the Lion Institute has been permanently localized by the medical faculty of that city. Shortly afterward the faculty of Lyons caused the Professor to establish an institute there, and all the hospitals have adopted his invention for the salvation of local "prematures."

The fame of Prof. Lion's apparatus had now reached Paris, and leading physicians at the French capital induced the inventor to found an infant saving institution in that city. His success here was such that the municipal government, in recognition of the boon he had conferred upon humanity, unanimously voted an annual subsidy for the maintenance of his establishment, as well as for the employment of his incubators in all the maternity hospitals in that city. The Lion Institute in Paris has reduced the annual death rate of "prematures" from 80 per cent. of two years ago, to 17 per cent. last year. It was here that American physicians touring Europe for pleasure visited the Lion Institute and urged the Professor to establish a branch of that establishment in this city ultimately, despite the large investment required for such an enterprise, Professor Lion is now here, directing an institute which for beauty, convenience and effectiveness has no superior elsewhere, and it has already a half dozen living mites, averaging two pounds each in weight, who board sumptuously with an equal number of pretty nurses, and often given in a chorus of infantile gratitude.

A branch of this enterprise will be established in the next month.

CLINICAL SURGERY AND SURGICAL PATHOLOGY

In charge of T. H. MANLEY, M. D., New York

MR. ALBAN DORAN—HERNIA OF THE ABDOMINAL CICATRIX.

Hernia of the cicatrix after abdominal section is unfortunately an accident of no great rarity. A mere digital protrusion may be kept back by pressure skillfully applied. If, however, it is suffered to attain a large size it may prove more troublesome than the disease for which the operation was performed. It may also become in itself a direct source of danger demanding surgical steps for its relief. The late Mr. Greig Smith, the loss of whom we all regret, clearly refers to the less advanced type of ventral hernia when he lays down his principles of treatment in his well-known work. Indeed, it would at first seem as though he referred to primary ventral hernia independent of any surgical wound, but he distinctly states that "ventral hernia, so-called, is simply a stretching of scar-tissue which permits the abdominal contents to escape through the parietes and to bulge outwardly under the skin." Further, in his paragraphs on hernia after operation he distinctly refers back to the same passage. Hence he is clearly speaking of surgical ventral hernia. Mr. Greig Smith continues: "There is no narrow neck as in umbilical hernia and no dissection of skin from parietes by burrowing omentum or intestine as in umbilical hernia. The hernial sac is simply stretched peritoneum; the coverings are stretched cicatricial tissue with a little fat and stretched skin. To cure this condition it is necessary to remove or push aside the redundant and attenuated tissues and bring into contact and keep in contact the thick and non-yielding parietes. To do this satisfactorily it is rarely necessary to enter the abdominal cavity." Here follows a description of his operation where the cavity is not opened.

Deeply regretting that Mr. Greig Smith, who was living when I began to prepare these notes last autumn, is no longer amongst us, I must be allowed to respectfully observe, in the interest of patients and operators, that the deceased surgeon's description of surgical ventral hernia can only apply to a very early stage of that troublesome complication. Even at that stage I should hesitate to operate without opening the peritoneum. When the hernia has developed further, so far from there being "no narrow neck" there may be a very tense narrow neck as in two of the four severe cases presently to be described. Secondary sacs and burrowing of omentum and intestine are observed in this form of rupture just as in umbilical hernia. Firm adhesion of intestine to the cicatrix is frequent. I will now give the notes of our particularly severe cases in my own practice where all the above noted complications were detected. An operation was demanded on account of those complications which were successfully relieved. I must add that I am not sanguine about the ultimate result as far as complete immunity from recurrence is concerned. The four cases simply show that hernia of the cicatrix is a serious condition.

Mr. Doran proceeds to give details of his four cases; the first:

Case 1. Hernia of ovariotomy-wound two years; large sac; secondary pouch; circular sharp edged neck with intimate adhesion of the transverse colon in the middle of the cicatrix. The second was of somewhat similar character; the third:

Case 3. Hernia of cicatrix of incision on the outer border of the right rectus for two years; enormous sac; no true neck; elongated secondary pouch with narrow neck almost strangulating the omentum; intimate adhesion of the omentum to the fundus of the sac; removal of the appendages for papillomatous disease.

The fourth:

Case 4. Double hernia of median abdominal wound; exploratory incision three years; large sac with two secondary pouches and long, narrow neck; small sac with narrow circular neck lower down; strong adhesion of small intestine and omentum to fundus of large sac.

The author describes the complicated anatomic state presented in these eventrations, pointing out the difficulty attending operations for them; a procedure, he tells us, sometimes followed by mortal consequences.

It is somewhat remarkable to note that the author never saw hernia follow the use of the drainage-tube; something which has so often been incriminated in these cases. Although, to one familiar with the pathology of hernia, this will not be surprising.

Nor is the author wedded to any special method of closing the abdominal wound, for he says, there are some without their defects. He has seen, he says, "hernia follow when the through and through section has been used, though no more frequently than when the parts were closed layer by layer."

There can be scarcely any question but the physical state of the patient, the condition of the tissues and general management of the cases, has much to do with the final results and presence of hernia after laparotomy.

—Lancet, Dec., '97.

There are few absolute rules in the practice of medicine.—Parvin, Ex.

For family or medicinal use there is none better than the Jesse Moore whisky, either Bourbon or Rye. In cases or bulk. Jesse Moore, Hunt Co., Louisville, Ky., or L. Heineman, agent, Jamestown, N. Y.

Current Medical Literature.

WHERE IGNORANCE IS NOT BLISS.

At a recent meeting at the Oxford House the Bishop of London spoke of the importance to boys of an elementary knowledge of the physiology of sexual function. They are exposed to temptation before they understand the importance of resisting it, and contract habits which deform all the rest of life. It is not to be supposed that knowledge will eradicate passion, but an ignorance of consequences is in many cases responsible for the hold which the passions gradually obtain. Weak at first they acquire strength if their promptings are not resisted, until they reduce the man to a state of slavery which few have the force of character to break. There is no doubt also that there is a great fascination in the unknown. Most medical men know the morbid eagerness with which laymen receive information about sexual matters. The lewdness of boys springs largely from the same sense of mystery, and these hidden things, when explained from the point of view of one who understands them, and looks at them with common sense, neither making light of them nor exaggerating their importance, lose much of their danger. Such an one knows the passion, knows the temptations to which it exposes us. It is a great help to a boy to be brought in contact with one who has this knowledge, and who at the same time will not minimise either the sin itself or the suffering which it brings in its train. Adult men are sometimes under the impression that chastity is a danger to health, and to them it is often useful to be distinctly assured that such is not the case. It is not right to give public instructions in these matters to boys. Such a course would bring obvious dangers with it. It is a question which should be discussed privately. But it is not easy to do this without whetting the curiosity, or perhaps even turning attention to a subject hitherto unnoticed. A serious interview devoted to this particular topic is open to both these objections. The best method is for parents or responsible persons to use the opportunities that naturally occur in common life, and to give the boy the information which would be naturally given if it were another topic. A boy constantly asks questions, and questions on these subjects should be answered as readily and as simply as others. He can at once be made to understand that it is not a matter for public conversation, and, if he finds no mystery made of it, it becomes a thing as indifferent as any other animal function. Unfortunately parents prefer to shift the responsibility to other persons, partly from false delicacy and partly from ignorance of the matter itself. Yet what would be quite natural in the course of daily talk becomes somewhat unnatural—and therefore, as we have said, somewhat dangerous—when it has to be the subject of a set conversation. It is better, however, that instruction should be so given than not given at all. If a boy's father does not do his duty by him, then he had better receive from his schoolmaster or from some friendly medical man such advice as they think will be of use. Above all, boys should be made to understand the difference between men and women. The lewd ignorance of schoolboys leads them to impute the same desires to women which they feel themselves; and if

a boy is taught to recognize this as ignorance, and not manly knowledge which he is apt to think it, it gives him a healthy contempt for such opinions, and a disinclination to mix with those who hold them. And, lastly, it is of the first importance that relations of confidence should be established between the boy and some sensible man, so that he may ask him any questions upon this subject which happen to present themselves, in the certainty that he will be answered fully, truly, and wisely. Since medical men have the fuller knowledge, they can in many cases fill this place, and in doing so we can confer upon the lad one of the greatest benefits he is ever likely to receive.—British Medical Journal.

CREOSOTE IN PHTHISIS.

At a meeting of the Harveiian Society of London, held on October 21, 1897, Dr. Clifford Beale read a paper on "Recent Experience of the Use of Large Doses of Creosote in Consumptive Cases."

Dr. Stamford G. Felce inquired whether Dr. Clifford Beale used creosote of any particular manufacture, as he had found the results vary greatly with different specimens of the drug, which, though occasionally well borne, was in a large percentage of cases not tolerated by the stomach. As commercial creosote is a more or less variable mixture, containing toxic cresols, paracresols, and pyrogallol, it seemed to him more rational to use a drug which, possessing equal efficiency, is of a definite chemical constitution—a condition that is fulfilled by guaiacol carbonate; in a fairly large series of phthisical patients he had found this drug well tolerated, and in suitable cases frequently beneficial. Dr. William Squire, Dr. Cleveland and others also took part in the debate.—Abstract from "The Lancet," Oct. 30, 1897, p. 1119.

EUCAINE AS A LOCAL ANESTHETIC.

F. C. Wallis, M. B., F. R. C. S., in an article entitled, "Eucaine as a Local Anaesthetic when used Hypodermically," published in St. Bartholomew's Hospital Journal, Aug., 1897, states having used eucaine B for some months past in St. Mark's and Charing Cross Hospital in nine removals of tumors, 44 rectal and two abdominal operations. The results of his experience with eucaine are most satisfactory. He has used a solution of 4 per cent. and he has never seen any signs of toxic effects, even when a considerable amount has been used. This percentage he found quite strong enough to produce absolute local anaesthesia for any small operation. He has in a large ischio-rectal abscess injected as much as three and one-half to four drachms subcutaneously without any ill effects at all. The average amount required for a small operation was from one to one and a half drachms of the four per cent. solution. One of the great boons this drug possesses is that the operator need not be at all nervous about using sufficient, and if the desired anaesthetic effect is not produced by one drachm, the second or third can be used with every confidence as to the safety of it. He frequently used it in the out-patients' room for abscesses, and found it most useful, both in hospital and private work, for removing the redundant skin which is sometimes left after operations for haemorrhoids. He has no after-effects to record, and concludes that eucaine has a great deal to recommend it.

In the British Medical Journal of November 27, 1897, Drs. W. Jobson Horne and MacLeod Yearsley described their experience with eucaine A, which they have employed in 100 cases of diseases of the ear, nose and throat. They found that the pulse was not materially affected in either rate or character, and they have not met with a case in which the drug, per se, influenced the cardiac action.

It has been stated that eucaine induces hyperaemia, and on this account the drug is inferior to cocaine, which produces an ischaemia so serviceable in investigating diseases of the nose. Upon the application of a 5 or 10 per cent. solution of eucaine to the mucous membrane hyperaemia will occur as an immediate

result; this is in the majority of cases but an initial blush, rapidly passes off, and gives place to an ischaemia, which, as seen in the nose, is generally less marked than that produced by cocaine. Upon a further application there is no recurrence of hyperaemia, and the ischaemia may be increased. In no case have we met with excessive or unexpected haemorrhage following operations done under eucaine anesthesia, such as is not uncommonly met with after the use of cocaine. This is no doubt accounted for by the action of eucaine upon the peripheral vessels already alluded to.

As regards the disturbances of sensation following the anesthetic action of the drug, more particularly in the case of the pharynx, these are not only less unpleasant and less marked than those produced by cocaine, but more transient, and, speaking generally, after the lapse of an hour from the time of application, the subjective sensations may be described as normal. Those who have experienced the effects of both drugs have expressed a decided preference for eucaine.

In concluding, the writers say:

"Were eucaine to be of no further service than to act as an efficient substitute in cases such as we have mentioned in which an idiosyncrasy for cocaine precluded an operation, even then this new local anesthetic could not be regarded otherwise than of importance.

"So far in our experience with eucaine we have not met with a case in which a single symptom supervened in the least way suggestive of a toxic effect of the drug."

We quote the following from the American Journal of the Medical Sciences, Phila., December, 1897:

"Eucaine B in Stomatology.—Drs. Dumont and A. Legrand make use of a one per cent, solution sterilized by boiling. They report seven observations, concluding that it is a good local anesthetic, producing anesthesia as rapidly as does cocaine, but which persists for a shorter period (about three times less), and that its feeble toxicity permits its safe employment in dental surgery even when practiced upon children.—Bulletin General de Therapeutique, 1897, 18 e liv. p. 545."

HYPODERMIC INJECTIONS OF OXALATE OF POTASSIUM IN PHLEGMONOUS INFLAMMATION.

Oxalate of potassium being known to have the property of preventing or retarding the tendency of organic fluids to coagulate, it occurred to Dr. G. Cavazzani, the principal surgeon of the Civil Hospital, in Venice, to utilize this property in the treatment of phlegmonous inflammation by injecting a 1 per cent. solution into the surrounding tissues so as to diminish the capillary engorgement and the plastic effusion which always exist there under these circumstances. The first case in which this plan was tried was that of a woman who had a large phlegmonous swelling which extended from the middle of the upper arm to the hand and which had been in existence for two months. The acute stage was passed and there were no collections of pus or patches of slough, but the arm was stiff, swollen, red, hot and painful. Ten injections were given into the cellular tissue around the affected portion, 30 minims in all being thus introduced. The next morning the swelling, the redness and the pain had perceptibly diminished; the injections were repeated every three or four days, and at the end of three weeks the patient was completely relieved. Subsequently Dr. Cavazzani employed this treatment in several other cases of phlegmonous inflammation with good results. Among them were two cases of phlegmasia alba dolens which rapidly recovered under the influence of the same solution, 30 to 45 minims being introduced in 10 or 12 points. In one of the cases two repetitions were sufficient; in the other three. Another case was that of a man who had undergone an operation for inguinal hernia and in whom three days afterward inflammation of the cellular tissue of a somewhat alarming character began to appear. Thirty minims of the solution were injected in eight points situated beyond and around the circumference of the inflamma-

tion, and the next day the inflammatory symptoms were found to have subsided. The only inconvenience resulting was a trifling amount of suppuration about two of the sutures of the wound. These injections of oxalate of potassium appear to be quite harmless, as no sign of poisoning was observed in any of the cases. Whether the theory upon which Dr. Cavazzani based his employment of this salt be correct or no, the fact remains that the results obtained by him are very encouraging and the treatment seems to be worthy of a trial by other practitioners.

—London Lancet.

AIROL IN THE OPTHALMIA OF NEWLY-BORN CHILDREN.

Airol having been proved very useful in the treatment of gonorrhea M. Ardin-Delteil, of Montpelier, was induced to make trial of it in a case of ophthalmia in a newly-born child, nitrate of silver which had been previously employed having appeared to increase rather than to diminish the intense inflammation. He applied a 5 per cent. airol ointment made with vaseline, leaving it in contact with the mucous membrane for 20 minutes and then washing it off thoroughly with a solution of boracic acid. After this an immediate improvement was manifest, the swelling and conjunctival secretion being greatly diminished by the next day, when a fresh application was made. The treatment succeeded in preventing suppuration, and in a week's time a successful result was achieved.

—London Lancet.

DISEASES OF THE LIVER.

A highly interesting paper on the "Prognosis and Treatment of Diseases of the Liver" has been read by Dr. Kolisch at a meeting of the Vienna Medical Club. Disease of the liver is as a rule only a part of a morbid condition such as sepsis, phthisis,or phosphorus poisoning, but there may, on the other hand, be local affections of the liver—carcinoma, for instance—which by the nature of the lesion influences the prognosis. In complicated affections of the liver the prognosis depends on the proportion of liver cells which no longer fulfill their functions and on the derangement of the normal metabolism. The secretion of urine containing bile pigment and throwing down much sediment is a grave symptom; scanty urine is more unfavorable, but polyuria shows that the state of the liver is improving. Urobilinuria is a very important sign. Clinical experience shows that a great many forms of jaundice begin and end with it, but that bilirubinuria prevails during the intervening period. Urobilin is not formed in the liver, but is produced in the intestine by the reduction of the bilirubin, which originates in the liver and is absorbed by the intestine. The theory that urobilin is formed when the liver is diseased is disproved by the fact that a minute amount of urobilinuria is normal, and also by the occurrence of bilirubin in the urine in cases of acholia. But the theory that urobilin is formed in the intestine does not explain some cases of urobilinuria in diseases of the heart, in fever, in the onset and disappearance of jaundice. Dr. Kolisch's theory of urobilinuria is as follows. The bile is always being secreted by the liver and absorbed by the intestine (circulation of the bile). The urobilin which is normally formed in the intestine from bilirubin also circulates in the same manner. Urobilin is more easily diffusible than bilirubin, and under ordinary circumstances a small portion of it makes its way through the liver cells and appears in the urine (normal urobilinuria). Under pathological conditions a slight impairment of the function of the liver cells permits the passage of an increased amount of urobilin, which appears in the urine (pathological urobilinuria), whereas the bilirubin is retained. Dr. Kolisch's experiments show that the so-called cholemic coma is due to an increase of the ammonia compounds, especially carbamic acid, circulating in the blood, and he therefore believes that the amount of albuminous food should be reduced in serious disorders of the liver such as cirrhosis with destruction of the liver tissue. In order to promote the elimination of toxic substances from the organ-

ism he administers diuretics, especially those which are antiseptic and act on the bowel. Medicines which assist the disintegration of albumin —salicylic acid for instance—are to be avoided. As a cholagogue he uses ox-bile and its preparations.

—London Lancet.

HAY FEVER.

At a meeting of the Vienna Medical Club Dr. J. Muller discussed the question of hay fever. He said that patients were able to predict an attack and that in a great many cases it occurred yearly. It could be proved that pollen entering the respiratory tract was the cause of the disease. The patients are very nervous and a great many show gastric symptoms. The attack begins with itching in the nose or sometimes in the eyes, accompanied by convulsive movements of the eyelid. This was followed by spasmodic sneezing and a profuse secretion of serous fluid from the nose. The mucous membrane of the nose was swollen, the conjunctiva was injected or chemotic, and sometimes there were edema of the eyes, vertigo, photophobia, pain in the forehead, in the temples, at the back of the head, and in the teeth. There is a causal relation between hay fever and gastro-intestinal symptoms. Dr. Muller adopted energetic local treatment of the nasal mucous membrane, which he touched with a 20 per cent. solution of nitrate of silver, and after some days irrigated it with seven litres (12 pints) of Karlsbad water, followed at last with a mixture consisting of three grammes each of menthol and resorcin and 14 gramm menthol and resorcin and 14 grammes of spirit of wine. The result was the detachment of the diseased mucous membrane and disappearance of the secretion.

—London Lancet.

CREOSOTAL.

BY PROF. DUJARDIN-BEAUMETZ,
Of Paris.
(Abstracted from the Dictionnaire de Therapeutique.)

By the union of carbonic acid with creosote there is produced a body neutral in reaction, bland and oily to the taste, odorless, entirely without irritatant effects upon the mucose, and which can be absorbed in large dose without in any way deranging the stomach. This new compound, called Creosotal, is as active, weight for weight, as creosote itself; which is readily conceivable, as nine-tenths of its mass is composed of that substance. Creosote itself contains guaiacol, cresol, phlorol, dimethylether, and propyl-pyrogallol; all of these form carbonates, and this mixture of carbonates forms the new drug.

Ceosotal is a viscid liquid at ordinary temperatures, becoming more fluid under the influence of moderate heart. Its color is amber, like that of the creosote from which it is derived; it has no odor when pure, hardly smelling of creosote at all. Its density at 15 degrees C. (59 degrees F.) is 1,165, a little heavier than that of water. It is insoluble in water, glycerin, and cold alcohol; it is soluble, without heating, in all proportions, in alcohol at 95 degrees, and in ether, chloroform, and benzine. Boiled for a considerable time, it turns a little brown.

According to the chemical formule 100 parts of the Carbonate of Guaiacol contain 90 parts of guaiacol, and 100 parts of the Carbonate of Creosote contain 92 parts of creosol.

It interferes in no way with the digestive functions, and is absorbed in large doses, 10, 15 or 20 grams (one-third, one-half or two-third ounces) daily, without trouble. In the intestine it splits up into its component parts, creosote and carbonic acid; thus there is a gentle but continuous action of the drug. The creosote can be demonstrated in the urine half an hour after the ingestion of its carbonate.

Creosote is admittedly the most active agent that we possess to combat tuberculosis, but its causticity prevents its exhibition save in very small doses. This grave drawback does not exist in the neutral Creosotal, hence it can be given in doses quite inadmissible for the crude drug. Its use is, therefore, a very important advance in the treatment of the tubercular diseases.

ACTIONS AND USES.

Creosotal, absolutely neutral, and without either the disagreeable odor or the burning taste of creosote, is so feebly toxic compared with the pure drug, that it can be given without admixture, by the teaspoonful. It is well borne, even by the most delicate and fastidious patients.

Sommerbrodt and many others are decidedly of the opinion that creosote is most effective in the largest dose that can be borne; and it is the impossibility of administering such large doses by the stomach that led Burlureaux to devise his method of the subcutaneous injection of creosoted oil. But no preparation of the drug is so well borne as the Carbonate; and it is preferable on all accounts to use it in the treatment of phthisical patients. Up to 20 grams daily (two-thirds oz.), can be taken without affecting the digestion injuriously. The doses of creosote usually given are not sufficiently large to destroy the tubercle bacilli, and the introduction of Creosotal into the therapy of pulmonary consumption is a marked improvement in its treatment.

The effect of the carbonate of creosote in pulmonary tuberculosis has been studied by Chaumier (Acad. de medicine, 1893), and by Lafond (These de Paris, 1893), whose observations were made in the service of Prof. A. Robin, at the Pitie Hospital.

The drug is to be administered pure, in capsules, or in emulsion, or dissolved in 4 to 12 parts of cod-liver oil. Mixing 14 grams (1-2 oz.), of the carbonate of creosote with 180 grams (6 ozs.), of cod-liver oil gives us the equivalent of 1 gram (15 grains), of creosote to each tablespoonful. From one-half to two teaspoonfuls of this mixture can be beaten up with the yolk of an egg, and administered in divided doses, in sweetened or aromatized water. The daily dose is as follows:

Child, 1 to 6 grams, (15 grains to 1 1-2 drachms); adult, 4 to 15 grams (1 drachm to 1-2 oz.)

The Creosotal is decomposed in the system, and the absorbed creosote is eliminated, partly by the kidneys and partly by the lungs. The breath often shows a slight aromatic odor of creosote, and the urine generally becomes heightened in color after large doses. Neither nausea, vomiting, nor diarrhea, nor any irritation of the stomach or intestines is caused by its use.

One of its first effects is an increase in the appetite and a betterment of the general condition. Thereon follows a diminution of the cough and of the purulent bronchial expectoration. At the same time the characteristic physical signs become less marked and disappear. In the early stages of tuberculosis, even cicatrization may occur. Parallel with the increase of the appetite and the disappearance of the phenomena of pulmonary auto-infection, there occurs a notable augmentation in the body weight. This increase amounted in some cases to several pounds a month. Often the cough and the physical signs disappeared entirely. The pharmaco-dynamic effects of Creosotal are, therefore, exactly analogous to those obtained by the hypodermic injection of creosoted oil, or of iodoformized guaiacol.

It is doubtless such results obtained by E. Chaumier (Congres de la tuberculose, 1893), which led him to say, that the Carbonate of Creosote more readily administered than the two above named preparations (for timid patients dread the subcutaneous injections), less irritant than the pure creosote, and causing no gastric or intestinal troubles, is destined in the near future to entirely replace the crude drug in the treatment of pulmonary tuberculosis. The carbonate of creosote is as stable a preparation as the carbonate of guaiacol, and has all its therapeutic properties.

The results obtained by various investigators are similar in their remarkable success to those gotten by Siefert and Hoelscher with the carbonate of guaiacol. The car bonate of guaiacol is one of the chief constituents of the carbonate of creosote, as guaiacol is an important part of creosote itself. Creosotal will, therefore, be welcome to many for whom guaiacol carbonate is too expensive.

SANOSE—A NEW ALBUMEN PREPARATION.

BY DR. SCHREIBER AND DR. WALDVOGEL, GOTTINGEN.
Assistants to the Clinic.

A new albumen preparation called Sanose has been sent to us by the "Chemische Fabrik auf Actien, formerly E. Schering," of Berlin, with a request to experiment with it. It is a combination of albumens containing 80 per cent, of casein and 20 per cent. of albumose. The manufacturers say:

"A combination of digested albumen (albumose) and casein would seem to be a very desirable preparation, since pure albumose, as well as Liebig's meat peptone, form a peculiar combination with casein. For whilst pure casein when boiled with water forms a coherent, tough, and sticky mass, a preparatory fine trituration with one-fifth of its weight with albumose gives us a perfectly emulsified milky fluid. This peculiar behavior of albumose and casein is certainly of physiological interest; though, so far as we know, it has not been recorded in the literature. The peculiar behavior of milk may possibly be thus explained. As is well known, all the fat may be removed from milk by repeatedly shaking it with ether, without the fluid losing its milky appearance; and hence the milky appearance does not depend upon the presence of suspended. fat globules in the fluid alone. The casein of milk, further, is not separated by boiling; a fact which has been explained by its existence in combination with the phosphates of lime or soda. It has long been known, however, that milk acts in exactly the same way after its salts have been comparatively removed by dialysis. Now, milk contains besides casein a comparatively small quantity of another albumen, which is distinguished from egg albumen in that it is not coagulable by boiling and therefore more closely resembles albumose. It is very probably this albumose-like material which prevents the separation of the casein from milk by boiling; and in like manner in Sanose it is the albumose that prevents precipitation at 212 degrees F."

This similarity of Sanose to milk, and especially to human milk, gives it a peculiar value; and as a matter of fact, when Sanose is mixed with water, a milk-like liquid if formed. Sanose is easily digested by trypsin, as well as by pepsin-hydrochloric acid at 40 degrees C. (104 degrees F.). Although we attach no very great value to artificial digestion experiments, we append the following experiment for the sake of completeness:—1 gramme (15 grains) each of Sanose, eucasin, and nutrose were dissolved in 20 c. c. (5 drachms) water, 10 c. c. (2 1-2 drachms) of artificial stomach-juice added, and the whole digested for four hours. On attempting to filter off the undigested albumen, only eucasin and Sanose gave clear filtrates. The nitrogen in the residues, determined according to the method of Kjeldahl, gave the quantity of undigested albumen with Sanose as 0.0812 gramme (1.25 grains), and with eucasin as 0.0927 gramme (1.43 grains).

Sanose is a white powder, odorless and tasteless, forming an emulsion when stirred with water. We have administered it in the following forms:—In milk and cocoa (about onehalf to one and one-half ounces to a pint of milk), in pea or bean soup (about one-sixth of an ounce to a plateful), and with Knorr's soup-powder. In none of these forms can the Sanose be tasted, and it is therefore taken by patients for a prolonged period without objection. As we did not believe that a pure albuminoid diet fulfills all the nutritive requirements of a sick organism, we have sought to combine Sanose with other foods of easily-digestible character. Thus to one patient (Case I.) we gave Sanose mixed with levulose (Diabetin); but this mixture proved rather too sweet to be taken for any length of time. A mixture of Sanose with maltose, isomaltose, and dextrine proved very pleasant, and it is possible that by combining these easily-digested carbohydrates with Sanose and an easily-digested fat in a gelatine capsule, all the necessary foodstuff may be supplied. Trials are being made in this direction.

For ordinary household purpose

Sanose is a suitable albumen preparation to be added to all foods prepared with flour or meal. Further, it may be added to bread to increase the albuminoid contents. We obtained a very tasty bread by adding 10 per cent. of Sanose, with a total albuminoid contents of 20 to 30 per cent. For patients who object to meat, or to whom its enjoyment is more or less forbidden—as in cases of nephritis, uric acid diathesis, or diabetes—Sanose bread will prove an agreeable substitute for aleuronate bread. Cakes containing 20 per cent. Sanose, i. e., a total albuminoid contents of about 30 per cent., were readily taken by our patients.

The nourishment of patients with Sanose enemas has not yet been sufficiently studied, but the nitrogen figures in Case I. prove its absorbability. Moreover, it may be mentioned that, although in some cases it was given for three weeks or more, no diarrhoeas occurred, even amongst phthisical patients who exhibited a tendency thereto. In all cases the urine was carefully examined, but circumstances did not permit of faecal analyses.

In conclusion; Sanose is a palatable, easily absorbed albumen preparation, capable of manifold employment, and possessing the advantage that no flavoring chemicals are added to it in its preparation. It can be given without the patients tasting it, and its price is a satisfactory one.—Deutsche Medicinische Wochenschrift, Oct. 7, 1897.

VICARIOUS MENSTRUATION AFTER REMOVAL OF OVARIES.

Marsi observed this phenomenon in a young lady who had undergone vaginal extirpation of the appendages for chronic inflammatory disease. For four months the urine became bloody precisely at the date of the normal period before the operation. Neither at that time nor between the vicarious periods could any trace of pathological products be detected, the deposit in the urine consisting of a few blood corpuscles and vesical epithelial cells.

—Centralbl. f. Gynak, No. 38, 1897.

ANTHRA SERUM.

Sobernheim makes a preliminary communication on this subject. He could find no immunizing substances in the blood either of animals treated with Pasteur's vaccine or of those who had passed through an attack of anthrax. In the case, however, of animals who have been treated for weeks and months with increasing doses of virulent anthrax cultures so that an active immunity is acquired, such protective substances are present in the blood. The serum obtained from a sheep thus treated conveyed a certain degree of immunity when injected into rabbits. The author has also immunized two sheep, first with attenuated and later with virulent cultures of anthrax; but the serum when injected into rabbits only delayed the fatal issue, but never prevented it. Even repeated injections of this serum gave no more satisfactory results. The results were the same whether spore-containing bacilli, or old cultures with free spores, or fresh anthrax blood without spores were used. Attempts at cure of the disease were without effect. Much better results were obtained when sheep were used instead of rabbits. In two out of seven animals 100 to 150 c. cm. normal serum from a lamb were first injected, then a small quantity of a virulent anthrax culture. Both animals succumbed to anthrax in from 32 to 40 hours. Three other animals were treated with a single dose (50, 100 and 200 c. cm.) of anthrax serum, and 24 hours later with a virulent anthrax culture. All these animals recovered. The sixth animal was injected with 20 c. cm. of the anthrax serum and then with the virulent culture. On each day for a week it received 10 c. cm. of anthrax serum, and it recovered. The seventh animal was injected with the virulent culture, and an hour later with 100 c. cm. of anthrax serum; 100 c. cm. were again injected ten hours later, and a similar dose was twice given on the next day. Smaller doses were given later, so that the animal received in all 500 c. cm. of the serum. It recovered. The interest of this last case is obvious, as it shows the cure of an animal by means of an-

thrax serum. Thus it is possible by means of the serum of an artificially immune animal to confer a sure protection against anthrax upon a fully susceptible animal such as the sheep.

—Berl. klin. Woch., Oct. 18, '97.

PROTARGOL, A NEW REMEDY FOR ACUTE GONORRHEA.

Neisser regards the ideal treatment of acute gonorrhea as one by which the gonococci are killed without the mucous membrane being affected, or, as far as possible, the inflammation and suppuration increased. He considers the best method to be injection, reserving irrigation for cases presenting special difficulties. He states that the best substance for this purpose with which he is acquainted is protargol, a proteid-containing silver compound. This contains 8.3 per cent. of silver, is readily soluble in cold and hot water, and is not precipitated by albumen, dilute sodium chloride or hydrochloric acid solution, or caustic soda. Ammonium sulphide darkens the solution, but does not precipitate; strong salt solutions precipitate, not silver chloride, but protargol itself. It has a remarkable penetrative power and excels the best of previous compounds, argentamin, in that, although containing more silver, it can be used in solutions up to the strength of 1 per cent. without causing any irritation. Hence it can be used as a bactericide from the very beginning of an attack of gonorrhea. It has the further advantage that it can safely be left in contact with the mucous membrane for a protracted period, even up to 30 minutes, by which time the sphincter has usually relaxed and allowed the fluid to flow into the posterior part of the urethra. The author lays down the following rules for treatment with protargol: The gonococcus must first be demonstrated, and it must be ascertained whether the posterior urethra is affected as well as the anterior. Next and at once systematic injection must be begun, the posterior urethra being treated as well, if necessary. Injections should be given thrice daily, the first two remaining in five minutes apiece, the third 30 minutes; if the secretion is considerable this should be changed five or six times. After a few days one injection per diem will often suffice, the protargol being replaced for the other two by astringent fluids. As the treatment is painless it can be conveniently continued for three or four weeks if necessary; even when the gonococci disappear within 48 hours the prolonged injections of protargol should be kept up once daily for a week. Then is even more necessary when no bacteriological examination is made; if the treatment is too short by one day the good of weeks may be undone. The strength of the protargol solution should be at first 1-4 per cent., and then increased to 1-2 to 1 per cent. In chronic cases irritative measures, such as the injection of 1 in 2000 argentamin may be resorted to; but here again the penetrative power of protargol renders it most valuable. Neisser concludes by expressing his belief that this substance is the best, safest and most rapid remedy hitherto introduced in the treatment of gonorrhea.

—Centralbl. f. Dermatol., Oct., 1897.

BACTERIOLOGY OF WHOOPING COUGH.

Czaplewski and Hensel have examined the sputum in this disease. The denser parts of the sputum are washed in three lots of peptone water. If the sputum is thick this washing is easily effected. Streak cultures are then made. Loeffler's blood serum being the best nutrient medium. The microbe is stained with carbol glycerine fuchsin (Czaplewski) or ordinary carbol fuchsin. A small, short bacillus, with rounded and swollen ends is found often in pure culture. It resembles the influenza bacillus morphologically, but differs from it in growing on all the ordinary nutrient media. The ends of the authors' bacillus stain more intensely than the other parts. Sometimes it forms longer threads and sometimes several individuals remain together in a chain. It is non-motile and possesses but small resisting powers. In young cultures it stains by Gram's method, but if it be then after-

stained with carbol glycerine fuchsin it is colored red. In severe cases of whooping-cough this bacillus is present in large numbers. It is only occasionally contained within cells. If the sputum is not well washed other microbes, especially the streptococcus, develop, and the isolation of the bacillus becomes difficult. The colonies are not very characteristic; they are somewhat raised, slightly yellowish grey, and resemble to some extent dew drops. Experiments on animals have as yet been negative. The authors have examined some 30 cases, and the constant presence of this bacillus leads them to publish the results. In some cases the bacillus was found before the patient presented the characteristic symptoms. One of the authors himself developed, while working with the material, an intense coryza with a few spasms of cough on one day. The bacillus was found in few numbers but in pure culture in the nasal secretion.

—Deut. med. Woch., September 9, 1897.

POST-MORTEM DELIVERY.

In German medical literature is found a term for which, as far as we are aware, there is no English equivalent, viz: "Sarggebuft," which literally translated means "coffinbirth" —that is to say, that a pregnant woman dies and the body is placed in a coffin and then before or after burial delivery takes place. Very few cases of this kind are on record. A notable case, however, is recorded by Dr. Bleich, of Tschirnau. Before proceeding to describe the case Dr. Bleich makes some remarks on the theories that have been advanced to account for the causes which bring about post-mortem delivery, and states that two explanations have been advanced; the first supposes that the pressure produced in the abdomen by the gases evolved in post-mortem decomposition is sufficient to cause the expulsion of the uterine contents, whilst the second suggests that the necessary force is brought about by the condition of rigor mortis into which the muscular structure of the womb is thrown. Proceeding then to a description of the case which he himself observed, Dr. Bleich records that on July 6 the dead body of a woman was found lying in a shallow pool of water. It was ascertained that she had escaped from her home in a state of insanity. On examination no signs of injury could be found with the exception of slight bruises on the knees; it was found that she was pregnant, probably in about the seventh month. Post-mortem rigidity was present; a few post-mortem stains were found on the back. It was concluded that the body had only been a short time in the water and that all the evidence pointed to suicide, and the burial took place on July 9. Eight days after the finding of the body it was ascertained that three young laborers had had sexual intercourse with the deceased woman shortly after one another. They were arrested and closely questioned and all three persistently denied that any criminal force had been used, but, on the contrary, said that the woman had been a consenting party. Exhumation of the body was ordered and a post-mortem examination was made on July 19. Delivery was found to have taken place after the coffin had been closed with complete inversion and prolapse of the uterus and vagina. A full account of the necropsy is given in Dr. Bleich's paper. We can only give a brief abstract. The abdomen was greatly distended but exhibited no signs of injury. Between the thighs lay a dark-red mass (the uterus) about the size of a head, from the under side of which sprang a dark umbilical cord, and connected with the latter was the body of a child 36 cm. in length. The vulva was wide open. The uterus was flabby and like a sac and lay with its inner surface pressed against the thighs together with the vagina; the placenta had separated and was dark-brown in color and of a hard consistence. The muscular walls were thin and brittle. Dr. Bleich suggests that the violence experienced by the woman shortly before death had been of such a nature as to render abortion probable, and that the collection of the gases of decomposition in the abdomen had been sufficient to complete that process and also cause the

condition of the uterus found on the exhumation of the body.—Lancet, Dec. 18, 1897.

"THE THERAPEUTIC VALUE OF ARSENAURO."

BY A. P. BUCHMAN, M. D., FORT WAYNE, IND.

Read before the Miss. Valley Med. Asso. at Louisville, Oct. 7, 1897.

To fully appreciate the therapeutic value of a drug one must understand its limitations. No remedy can be made to do more than a limited number of things. To ascertain just what pathologic conditions are modified or changed for the better by a given therapeutic agent is a task of no mean importance, yet an absolute necessity, when we aim to be rational in our methods.

For the past four years Arsenauro has been one of the chief factors in my therapeutic armamentarium because of its almost universal happy effects in the special line of work that I have almost exclusively engaged in. The body of work has been in the field of denutrition, and false metabolism, depending remotely upon gastric and intestinal indigestion.

It is not my purpose at this time to classify and enumerate an extensive list of such patients, but rather to give a very short clinical history of a type case in which the phenomena that reached the threshold of consciousness were sufficiently distinct to induce the opinion that a diverse etiology, rather than a single line of cleavage, was necessary in order to reach a logical demonstration of the causative factors in operation, and therefore rationally outline a therapeutic course destined to terminate in satisfactory results.

Abnormal metabolism and denutrition express themselves in direct relation with constitutional idiosyncracies, hygienic environments and the vulnerability of the organism. Bearing this in mind we can comprehend why one patient will present a pathology of the lungs, another a kidney affection and still another a disease of the nervous system; while the point of departure from the health line in all is the same.

The first case in which I noticed gratifying results following the exhibition of Arsenauro, was that of a traveling insurance adjuster, who had suffered with gastric indigestion over a period of five years, in consequence of which his blood stream was impoverished, his nervous system shattered and the whole organism working at the lowest possible pressure. The particular symptom that brought him to me was insomnia. He was forced to quit work on this account. A farther description of this case is unnecessary, as the clinical picture is familiar to every one. A thorough cleansing and disinfection of the digestive tube was the first step, after which I carefully regulated the diet, so as to insure the greatest quantity of nutrition for the least amount of energy expended by the digestive forces. Bathing, massage and electricity were ordered. The usual carminative and tonic drugs were exhibited. This course was persisted in for a month, during which there was noticeable betterment, but not sufficient to satisfy either the patient or myself. I now withdrew all former drugs and gave him Arsenauro in ten-drop doses four times daily. In ten days the patient was sleeping comfortably, eating and digesting fairly well, and altogether was sufficiently recovered to go to work moderately. After sixty days constant use of the drug he announced himself as having entirely recovered and able to perform the exacting work required of him with ease and pleasure.

The recital of this case will suffice to illustrate the groove into which Arsenauro fits so perfectly. It changes the chemical movement in the blood plasma. The movement of the atoms thus initiated continues; new material takes a more pronounced part in the various phenomena of motion and life; the lymphatic glands, whose office it is to supply fresh material to the blood and nervous system, are changed to healthy action, their products become normally reconstructive; cell digestion is stimulated, and the blood is im-

proved up to a normal standard.

To accomplish these results, however, it is not enough to simply give Arsenauro. I have tried to expose the preparatory work, which is absolutely essential, and without which Arsenauro, like any other drug given out of time and place, will yield only negative or indifferent results.

I have never secured from Fowler's Solution the fully desired arsenic results which have invariably followed the administration of Arsenauro, and yet, as Dr. Stuckey, over a year ago, pointed out in his scientific paper, the average dose of Arsenauro contains very much less actual metallic arsenic than does Fowler's Solution. We evidently have an entirely new agent in Arsenauro, something more than the mere combining of arsenic and gold, for by evaporating Arsenauro you have a resultant crystal which is not the crystal of arsenic, nor is it the crystal of gold, but a crystal such as I have never seen before. I would lay emphasis upon the point that I have observed no evidence of arsenical poisoning from Arsenauro. It does not produce cumulative effects, but is easily and promptly assimilated.

A PHASE OF THE TREATMENT OF GOUTINESS.

By REYNOLD W. WILCOX, M. D.,
of New York.

The subject of lithemia has been presented with thoroughness and vigor by many able internalists, and yet it has never received the attention which its importance demands. Those who have studied its literature during the past five years, and have intelligently applied the principles therein laid down, are enthusiastic as to the real advances which have been made. Many hitherto unexplained and inexplicable symptoms and conditions yield as if by magic, and the result is not only a relief from long-standing disability, but as well, the acquisition of clearly-cut ideas as to diagnosis and treatment on the part of the physician.

While we are not prepared to abandon the term lithemia, yet perhaps it is well, pending a more widely diffused knowledge of the significance of the term, to substitute for it the word goutiness, which is more suggestive to those who hold conservative opinions, and is supported by the authority of Ewart. Satterthwaite's classification divides lithemia as follows: The hepatic (dyspepsia), the neurotic (neurasthenia), and the arthritic (gout). Further, it must not be forgotten that uric acid, whose role in the causation of morbid conditions has been so convincingly proved by Haig, is not all of lithemia, nor of uric-acidemia; else leucocythemia must be included in the consideration of goutiness. Indeed, the fact cannot be safely ignored that many instances of what is popularly designated as chronic rheumatism are, properly speaking, forms of disease resulting from uric-acidemia. As for acute polyarticular rheumatism, modern investigation warrants us in considering it to be of bacterial origin.

Then, making use of the term "goutiness," as Ewart has defined it (as being synonymous with the conditions of imperfectly declared gout, not necessarily associated with definite structural change, although such may also be present in a minor degree, and usually consisting of varied functional disturbances of a general character which cause many clinical symptoms), we may differ with him in that uric-acidemia, although a declared pathologic condition, should come under the head of goutiness. After these considerations the title of this paper may seem to be appropriate, and more especially, as it is intended to cover but one aspect of the question, namely, the neurotic form so often discussed under the symptom-complex of neurasthenia. That this condition should be succinctly present is evident from the following instance which came under observation about five years ago:

Case 1.—An officer in the navy became incapacitated for duty. His habits were beyond reproach. He was emaciated, pallid and appeared at least ten years older than he actually was. About every ten days to two weeks he would be absolutely incapacitated by violent attacks of headache, which continued from two to five days. During two or three

days he would be depressed in spirits, suffer from inappetence, perhaps be constipated, and be disinclined to mental or physical exertion. Beginning with the afternoon he would suffer from slight vertigo, "crinkling before the eyes." Pain, resembling migraine, with pallor of the face, would assert itself, nausea would follow, and, finally, he would be forced to go to bed. The whole gamut of migrainous symptoms would be run; pallor, later flushing of the face; temporary blindness, followed by throbbing temples; lightheadedness, with specks before the eyes; and, as a sequel, nausea, vomiting, and purging; heavy urine, diminished in quantity, with brick-dust sediment, would be followed by a copious flow of clear urine, resembling that of hysteria; forcible palpitation, precordial pain, dyspnea, and later, fluttering of the heart as a preliminary to tachycardia. During the first stage the patient would be melancholic, suspicious, jealous and irritable. He would give way to fits of temper without cause. The future had nothing in store for him, the past was a failure, and present existence a torment. His heart was believed to be affected, and he underwent an operation for hemorrhoids without an anesthetic. He was believed to be dyspeptic, and his diet was limited until he became emaciated. Since mucus was a frequent and important constituent of his stools, he received cathartic medication in great variety. Finally, he was retired in the belief that his disability was permanent.

A careful physical examination revealed that the only disturbance referable to the heart was a slight hypertrophy of the wall of the left ventricle. The pulse evidenced a high degree of tension. The liver could be felt below the free border of the ribs, the edge rounded and more than normally resistent. The abdomen was tender, somewhat distended, but otherwise normal. The urinary examination showed an acid urine of high specific gravity, a trace of bile, but no albumin, glucose, or casts. The relation of urea to uric acid was greater than thirty-three to one. A strict regimen of meats, green vegetables, excess of water between meals, regular evacuation of the bowels obtained by means of sodium phosphate, after preliminary purgation with calomel, resulted in relief of all symptoms within three months, save that his periodic headaches, although less, continued. The coal-tar analgesics administered at the time of an attack had little effect; the nitrites given during the spastic stage cut it short, but the secondary congestion was intolerable; opiates were out of the question. A weak convex glass for manifest hyperopia was worn with comfort, but did not relieve the headache. After several months, during which the condition remained about the same, the use of piperazin water was suggested. This was administered during an attack, and the patient managed to keep about instead of taking to his bed as formerly. The first time that premonitary symptoms appeared one bottle was taken each day three days in succession with the result that the attack of pain was the mildest he had experienced in many years. By giving this remedy as soon as the uric-acid elimination fell below the normal he was enabled to live in comfort, still, however, adhering to his diet and regular life. After some months he engaged in active business, and has so continued with success as to results and comfort to himself.

As this was the first of my using the "water" and as I had not obtained good results from the use of piperazin alone, I was led to quote Haig in my address upon lithemia before the Medical Society of the State of New York in February, 1893, in which I said that "it was not a powerful excretant and could not compare with the salicylates," adding that "I had only found it of use when, in the treatment of neurasthenia, it was combined with large doses of phenocoll hydrochlorate." The brilliant success achieved in this instance led me to continue my investigations and finally to believe that I had solved the problem of the management of neurotic lithemics, which hitherto seemed to present insurmountable difficulties. The use of a meat diet, then advanced in my

paper, provoked adverse criticism. When, however, we consider, that the so-called vegetable diet is not only one of starches, sugars and fats, but as well of vegetable albumins (gluten), it is apparent that the distinction between an animal and vegetable diet is one of terms rather than of facts. Further, when it is generally known that the vegetable albumins are of far greater difficulty of oxidation than those of animal origin, and, since lithemia is largely dependent upon imperfect oxidation, the reason for the use of a meat diet is clear. The practice then advocated has been adhered to with the most satisfactory results, not only in affording relief to patients afflicted with goutiness, but to those with well-marked gout who had been treated, secundum artem, by the classic methods. While uric-acidemia is a constant factor in both gout and goutiness, we must, as careful observers, admit that there is something else of enormous importance. It hardly aids in the solution of the question to add imperfect oxidation; it simply advances the problem another step. Since it has been conclusively shown by Haig that migrainous attacks are associated with a diminished elimination of uric acid, and that the end of the vasospasm is followed by a largely increased output of this substance, and, inasmuch as in vitro piperazin is an excellent solvent of uric acid, we have a logical remedy for the pathologic condition. Inferentially, this drug should be of use in all conditions associated with deficient elimination of uric acid, and practically this is found to be a fact.

A striking example of this condition (neurotic lithemia) is shown in the following history:

Case II.—A gentleman of middle age, somewhat corpulent, had spent two summers in Europe and two winters in the South for so-called nervous prostration. There was temporary relief following each vacation. He was a good liver but not a hearty eater. His habits were excellent with the exception that he smoked a number of cigars each day. He was prosperous in business and fortunate in his family relations. His sleep was disturbed by annoying dreams; he awoke in the morning unrefreshed, and rarely slept more than three to five hours. He was irritable, depressed in spirits and unreasonable; the physical examination revealed an unusually healthy man as regards the respiratory and circulatory systems. The liver was slightly enlarged and tender; the abdomen somewhat distended and tympanitic; conjunctivae jaundiced. During January of this year a urinary examination showed absence of albumin, casts and glucose. There was a trace of bile; acidity high, and the total amount of urine was 935 ccm., and contained 0.312 gm. of uric acid, and 25.2 gms. of urea. Thirty grains of potassium acetate was given at 10 P. M., in the hope that the normal morning alkalin tide would be increased. Sodium phosphate was ordered, dissolved in hot water, at bedtime, in sufficient quantity to produce an easy evacuation of the bowels. The diet and the exercise were regulated according to the principles laid down in the address previously mentioned. Ten days later the urine was found to be 2825 ccm. in quantity, which was exceptional, and it contained 0.334 gm. of uric acid, and 28.2 gms. of urea. The sodium phosphate was continued and piperazin in 20-grain doses was given at bedtime. One month later the amount of urine was found to be 1800 ccm., containing 0.346 gm. of uric acid, and 29.3 gms. of urea. The patient's ability to sleep was somewhat improved, and the morning exhaustion was not so much a subject of complaint. To the dose of piperazin 30 grains of phenocoll hydrochlorate was added, and the patient spent nearly two months in the South, returning considerably improved. The urine was now 1920 ccm. in amount, and contained 0.501 gm. of uric acid and 25.1 gms. of urea. The constant dreaming was now lessened, and there was marked improvement as regards irritability and depression of spirits. He was directed to take one bottle of piperazin water during the evening. Five weeks later the urine was 1650 ccm. in amount, and contained 0.572 gm. of uric acid, and 24.6 gms. of urea.

He now went to his country residence for the summer, coming to town each day for business, and at present reports that he sleeps with but little dreaming, awakes refreshed; everything is bright and cheerful, and he feels able to attend to his business in a satisfactory manner. The last report of urinary condition was: Quantity, 1810 ccm.; uric acid, 0.629 gm.; urea, 24.2 gms. It is a curious fact that in spite of the low co-efficient of uric acid during the earlier part of his treatment he never suffered from headache nor from neuralgia.

The following is an instance of a common error in diagnosis:

Case III.—A young man engaged in a literary occupation became incapacitated. He was finely educated, brilliant and cultivated. During May of last year he collapsed mentally and physically, presenting the symptoms generally ascribed to neurasthenia. He was treated in a sanatorium for eleven months, running the gamut of the rest cure, massage, electricity, baths, packs and vegetable diet. At the end of this time he was just as unable to endure mental or physical fatigue as when he commenced the treatment. He had, however, gained considerable flesh. On examination, during April of this year, he was found to be sallow and lethargic. He complained of constipation, and of but little appetite, abdominal distension, dull headaches and inability to think or do anything requiring thought. The physical signs were those of an enlarged liver, gastro-intestinal dyspepsia and the neurotic type of lithemia as regards heart and nervous system.

The urine was 1120 ccm. in amount, containing no albumin, casts or sugar, but a trace of bile, and 0.336 gm. of uric acid and 27.1 gms. of urea. A system of purgation was begun with 1-10 grain of calomel at hourly intervals until a free movement was obtained each day, and this necessitated the occasional use of Kissingen water. This was continued ten days, during which time the movements would have recalled the older descriptions of inspissated bile. The usual diet was ordered, with a considerable amount of water between meals. A Turkish bath was taken every second or third day. At the end of this period the patient slept much better, and felt refreshed when he awoke. The skin had lost some of its sallowness, and the mental depression was less. During the next ten days gastro-intestinal fermentations were inhibited, first with resorcin and later with bismuth naphtolate. The piperazin water was prescribed in bottle doses, to be taken between dinner and bedtime. At the end of this time the urine was 1640 ccm. in quantity and contained 0.496 gm. of uric acid and 26.2 gms. of urea.

At the present time the patient sleeps six to eight or nine hours each night and awakens refreshed. He walks several miles daily, reads the newspapers and takes interest in his surroundings. For the next month the piperazin water was continued; a weekly series of calomel powders were insisted upon. His diet was now made more varied and increased in quantity; bicycle riding was encouraged. At the end of five weeks the urine was 1725 ccm. in quantity and contained no bile; uric acid, 0.550 gm.; urea, 25.3 gms. The following pulse tracing shows a distinct gain:

At the present time the patient can easily ride fifteen miles per day upon his bicycle, eat articles of food which he has not ventured to ingest for years, and can digest them better. He sleeps quite well, has regained his intellectual vigor, and is in a fair way to attain his former standard of physical strength.

The purpose of this paper is to point out that a very considerable number of so-called neurasthenics are really patients who are suffering from goutiness of the particular variety known as neurotic lithemia. It is a notorious fact that these patients are cured with difficulty, notwithstanding that they are curable. The clearing of the mental atmosphere of depression as soon as the stored uric acid is set in motion toward excretion is remarkable. Further, since it is not the excess of manufactured uric acid, but rather its deficiency of elimination to which

the symptoms are due, and in addition, that a vegetable diet contains albumin of a variety which is difficult of oxidation, renders the prohibition of red meats an illogical procedure. Piperazin in vitro has been proven to be an efficient and harmless solvent for uric acid. Administered with phenocoll, better results are obtained than when piperazin is alone employed.

So far as my knowledge goes, piperazin water is the method of choice for the administration of this drug, because perfect solution in proper dose and quantity of menstruum is obtained.

It may then be concluded: 1. That uric acid, as a causative factor in neurotic lithemia, a form of goutiness, should not be overlooked. 2. That a limited meat diet is productive of good results. 3. That piperazin administered in the form described in this paper is the remedy of choice for the elimination of uric acid, not only in this, but in other pathologic conditions dependent upon the same cause.

—Medical News.

DIGITALIS AND STRYCHNINE IN CARDIAC AFFECTIONS.

Whenever a diseased heart, which has hitherto performed its work satisfactorily, suddenly displays vagaries of action, it should not be taken unreservedly for a sign of failing compensation. Efforts should be made to discover the cause, since the correction of injurious habits, or the removal of reflex disturbances may set the heart to rights before serious damage ensues. Should the derangement of the cardiac action threaten to produce or actually cause dilatation, then, of course, digitalis and strychnine are indicated; but, so long as compensation is intact, digitalis and allied remedies should be withheld.

—The Medical Standard.

OSTEOMALACIA AND ROENTGEN RAYS.

Gobel watched for seven years a severe case of mollities ossium in a woman now 50 years old. No less than ten fractures have occurred within five years, both humeri and forearms, the clavicles and ribs suffering. Repair was extremely slow. She had borne 14 children, and always required a doctor. Gobel tried to explore a fracture of the humerus with X-rays, and was surprised to find that no bone shadows could be obtained, so completely was the injured bone deprived of lime salts. He obtained perfect skiagraphs of the same bone in other patients. The borders of the radius and ulna in the same patient gave a very faint shadow, the axis remaining absolutely diaphanous. The transparent humerus had just been fractured for the third time. The fractures are preceded by sharp local rheumatic pain. Gobel is keeping a close watch on the patient, and when the local pains set in he intends to examine the spot with the rays and to apply a protective apparatus to the affected limb should the shadow of the bone be feeble at the acting point.

—Deutsche med. Wochenschrift, No. 17, 1897.

Miscellany.

HYPODERMIC PURGATIVE.

R—Caffeine.
Chloral .....aa gr. 7½
Aq..... .....m 75
Sig.—Inject fifteen minims.
—Ewald, Journal de Medecine de Paris.

A GARGLE FOR LACUNAR AMYGDALITIS.

We find the following formula in the Presse Medicale:

R—Beech creosote.....gtt. 8
Tinc. of myrrh.
Glycerine.....aa grams 900
Aq..... .....grams 1800
M.—

—N. Y. Med. Jour.

ACUTE CORYZA.

Capitan, in Medicine Moderne, recommends the following powder, which he says arrests generally, almost immediately, a commencing coryza; if from the very onset the patient takes pains to snuff up a pinch into each nostril and draw in deeply:

R—Saloli..... .....gr. 15
Acidi salicylici.....gr. 3
Acidi tannici.....gr. 1
Pulv. acidi borici.....dr. 1

M.—Take a pinch every hour for half a day, and then discontinue the use of this snuff, for, if it be perservered with, it may cause an eczematous eruption on the margins of the nostrils, from the action of the phenic acid resulting from decomposition of the salol.

Another snuff-powder by the same writer is recommended as being similar in its action to the preceding, but less powerful:

R—Pulv. cretæ .....gr. 75
Antipyrin .....gr. 16
Pulv. acidi borici.....gr. 30
Acidi salicylici.....gr. 4

M.—This powder may be snuffed up the nostrils without fear of irritation.

—Ex.

VIRGINIA'S ATTRACTIONS.

It is astonishing what a vast amount of rational enjoyment may be extracted from a ten-days visit to Virginia; how it may be made to compensate for the untold miseries of months of labor, and, in fact, obliterate the remembrance of the "ticker" or of "trial balances," which one must endure while tossing among the breakers of modern business.

It is wise for Americans to see the beauties of Virginia thoroughly before seeking those of other countries. It is not only a better education for the mind, but it gives a fuller appreciation of these beauties of nature, which are fully equal to those of Switzerland and Italy. Men who have seen the Rhine, the Rhone and the Tiber have quite worn off that freshness of enthusiastic feeling which is at first aroused by the New, the Greenbrier and the James.

In the Chesapeake & Ohio sections of the Old Dominion are bits of scenery each bearing an indelible impress of Creation's hands, and each preserving memories of Nature's might. The Natural Bridge, the Grottoes of the Shenandoah, the Caverns of Luray, the New River canons, tell stories widely different from Nature's structures of continental Europe, and Old Point Comfort, Williamsburg, Richmond and the Lower James disclose fragments of history of far greater interest to us of American birth than the treasures of the Old World. Pictures of delicious and magic beauty abound. In the heart of the Alleghanies health and pleasure seekers find life-giving waters and social enjoyment at White Sulphur Springs, the celebrated Hot Springs, Healing Springs, Warm Springs, Natural Bridge and a host of other resorts of world-wide fame. If one is an enthusiastic lover of military history, with an admiration for warlike deeds of warlike men he may stand on almost any mountain in Virginia and gaze upon fields where men's hopes have been destroyed, and upon plains which have wept bloody dew. The lover of nature will see valleys

of peace and rich, fertile dells, through which silver rivers wind their graceful lines. The student of the utilitarian school may feast his eyes on mines of iron and zinc and coal, while to the sentimental there are nooks fitted only to the intermingling of the lover's speech.

AN APPEAL

To every Registered Physician and Licensed Midwife in the United States for Information Concerning Criminal Abortion.

Dear Doctor:

I most earnestly appeal professionally to each of you, regardless of your school of practice, your prominence in the medical profession, or your location, to answer the questions given below. In replying please designate each question by its number. Answers can be made in numerals, and if you do not elect to respond by letter a postal card will do as well. The face of such a card will present only an aggregation of meaningless figures to all who handle it except ourselves.

However, I will highly appreciate whatever you may impart in relation to criminal abortion otherwise than may be contained in your answers to my questions. I trust your visiting list, your cash and account books, and other data in your possession, will enable you to give definite or approximate answers without consuming too much of your time. If the 115,000 to 120,000 physicians in the United States will kindly give the information I ask, I will return to them through the medical press, some time during 1898, a summary of the results of my investigation.

I desire to assure you that every line given me on the subject of my inquiries will be held strictly private, if you request it, and should you not request its privacy, I will give it good treatment. If for any reason you wish to withhold your full name your initials will suffice. Remember my inquiries cover the year 1897, and where you cannot give a definite answer an approximate answer is desirable:

QUESTIONS.

1. Give total number of abortions from all cases that occurred in your practice during 1897.*
2. In how many of these abortions were the elements of criminality, to your mind, apparent?
3. In how many of these abortions, except those classed in question 2, were the elements of criminality, to your mind, probable?
4. How many of the abortions named in questions 2 and 3 were followed by puerperal septicemia or other diseases?
5. How many deaths resulted from the abortions named in questions 2 and 3?
6. How many still-born in your practice?
7. How many infanticides?
8. How many viable children born in your practice?
9. How many cases of puerperal mania resulted from the abortions classed in questions 2 and 3?

All midwives who are licensed are solicited and urged to answer the above questions so far as their knowledge enables them. Doctor, permit me again to beg that you answer my inquiries either definitely or approximately, and if for any reason you cannot fully answer all do your best on questions two, three, five and nine. Medical journals throughout the United States are requested to favor the undersigned with an insertion of these questions in their January or February, 1898, issues.

C. D. ARNOLD, M. D.
El Reno, Okla.

*NOTE.—Question one should include abortions which you know occurred among your lady patrons without the attention of a reputable physician. Any abortion that resulted from an obstinate disregard on the part of the woman, of a physician's advice, or from the wilful commission of any act which her observation, experience and other knowledge gave her reason to believe might induce immediately or even remotely the expulsion of the uterine contents, was criminal. (Any act, however simple, occurring in the daily avocation of a pregnant woman, if impelled by an intent, or even a desire or wish to get rid of her pregnancy, is criminal whether she aborts or not). I use the word "abortion" here to mean the expulsion of the products of conception at any time during gestation to the end of the seventh month, if the abortion was unavoidable, and to full term, if criminal.

Book Reviews.

REVIEW.

ILLUSTRATED SKIN DISEASES, An Atlas and Text Book.—With special reference to modern diagnosis and the most approved methods of treatment, by William S. Gottheil, M. D., New York. E. B. Treat, 5 Cooper Union, publisher. Copyright, 1897, by E. B. Treat. Contents: Morbilli, rubeola, scarlatina, variola, vaccinia, varicella, lichen planus, lichen ruber, favus, trichophytosis capitis, trichophytosis, trichophytosis barbae, eczema (cont.), erythema multiforme, herpes, zoster, dysidrosis, pemphigus, dermatitis herpetiformis, impetigo contagiosa, dermatitis exfoliativa, psoriasis, trichophytosis corporis, pityriasis rosea, chromophytosis, erythrasma, scabies, phtheiriasis capitis, phtheiriasis vestimenti, phtheiriasis pubis, eczema.

We have examined with renewed interest the 4th, 5th and 6th parts of Dr. Gottheil's Serial Atlas and Text Book on Dermatology. The salient features of the work in its opening pages are maintained throughout these advancing numbers. Brevity, with simple, clear diction, renders a comprehensive grasp of the subject easy.

In a casual survey of this work it is strikingly obvious that the author is no micro-maniac, for he repeatedly states, of various new inflammatory affections, that while some maintain their bacterial origin, he and others have not been able to demonstrate it.

The author is quite positive and emphatic in his differentiation of those cutaneous lesions dependent on local, and those dependent on constitutional states; in the meantime pointing out our impotency to cure the latter without close attention to hygienic-dietetic conditions and constitutional states. Careful attention is given to detail in treatment rather than indulging in endless controversy on phases of pathology. This feature is one which must strongly commend the work to general practitioners, for whom it seems to be particularly adapted.

ORIGINAL INVESTIGATIONS BY DRS. H. P. LOOMIS, KARL VON RUCK AND HUGO SUMMA, OF GUDE'S PEPTOMANGAN PREPARATION.

This is a little pamphlet containing tables of facts relating to the ability of this preparation to build up the red corpuscles of the blood. It would pay our readers to send to M. J. Britenbach & Cd., New York, for one.

Jesse Moore Old Kentucky Bourbon or Rye Whisky is a standard of excellence; pure, old and ripe. Send for samples and prices. Jesse Moore, Hunt Co., Louisville, Ky.